Available online at
ScienceDirect
www.sciencedirect.com
Elsevier Masson France
EM|consulte
www.em-consulte.com
Annals of Physical and Rehabilitation Medicine 57S (2014) e249–e255
ANNALS OF PHYSICAL AND REHABILITATION MEDICINE

Pain

Lectures

CO58-001-e

Placebo and nocebo effects in pain treatment: Clinical implications

J. Bruxelle
Fondation Ophtalmologique Adolphe-de-Rothschild, Paris, France

Keywords: Placebo effect; Nocebo effect; Pain treatment

The placebo, when prescribed with an analgesic intent, induces a placebo effect that often mimics the analgesic properties of a tested drug in clinical trials.
Real psycho-neurophysiological event, this placebo effect is influenced by patient's expectations and past experiences, doctor's convictions and suggestions, and the doctor-patient relationship. It results from activation of several pain control systems, mainly opioid and dopaminergic.
Nevertheless, in some cases, the prescription of a placebo or analgesic drug can be followed by pain increase without worsening of disease. This nocebo effect is often observed when the patient has negative expectations:
– fear of drug and it side effects influenced by negative past expreriences or anxiogenic information;
– or when the doctor-patient relationship is poor.
This hyperalgesic nocebo effect could mainly result from activation of cholecystokininergic systems facilitating the transmission of painful messages.
In clinical practice, a better understanding of factors involved in placebo and nocebo effect should allow potentiating the analgesic effects of prescribed pain treatment.
Further reading
Benedetti F. Placebo effects: understanding the mechanisms in health and disease. Oxford: Oxford University Press; 2009.

http://dx.doi.org/10.1016/j.rehab.2014.03.905

CO65-001-e

Emotion and neuropathic pain

G. Mick
UETD, Voiron, France

Keywords: Emotion; Neuropathic pain

The pathophysiology of neuropathic pain suggests that clinical symptoms fluctuate with emotional state in patients, a hypothesis that seems verified by clinical practice. We will review arguments in favor of an emotional modulation of the neuropathic clinical picture, which might shed light for mechanisms of action in non-pharmacological therapeutical approaches, such as hypnosis or cognitivo-behavioral therapy.

http://dx.doi.org/10.1016/j.rehab.2014.03.906

Oral communications

CO58-002-e

Manipulating expectation of pain inhibition elicits differential effects on cortical and spinal level nociceptive processing

G. Lewis[a], A. Leys[a], D. Rice[b,*], P. Mcnair[a]
[a] *Health and Rehabilitation Research Institute, AUT University, Auckland, USA*
[b] *Health and Rehabilitation Research Institute, AUT University and Waitemata Pain Services, Department of Anaesthesiology and Perioperative Medicine, North Shore Hospital, Auckland, USA*
*Corresponding author.

Keywords: Conditioned pain modulation; Expectation; Nociceptive flexion reflex

Introduction.– Impaired conditioned pain modulation is common in chronic pain conditions and may increase the risk of persistent postoperative pain. The aim of this study was to determine if manipulating the expectation of pain inhibition can enhance conditioned pain modulation.
Methods.– In 19 healthy males, the lower limb nociceptive flexion reflex was elicited in isolation (test stimulus) and during application of two forms of painful conditioning stimuli. Following application of the first conditioning stimulus (CS1), the participants were informed that the subsequent conditioning stimulus (CS2) would elicit a greater amount of inhibition of test pain compared to the first. Lower limb flexion reflex size, perceived pain ratings of the test stimulus, and ratings of expected pain modulation were measured.
Results.– Pain inhibition was significantly greater with CS2 compared to CS1 ($P = 0.003$); however, there was no significant difference in inhibition of nociceptive flexion reflex size ($P = 0.8$) between the two conditioning stimuli.
Discussion.– These findings suggest that cognitive suggestion led to inhibition of nociception at a supraspinal level without influencing spinal nociceptive processing. The finding that conditioned pain modulation can be enhanced with cognitive suggestion may be relevant in the prevention and treatment of chronic pain.

http://dx.doi.org/10.1016/j.rehab.2014.03.907

CO58-003-e

Usefulness of music therapy among patients hospitalized in convalescent and rehabilitation units for the elderly

S. Guétin[a,*], S. Goudeau[b], E. Pelletier[c], F. Bonté[d], C. Bussy[e], J. Touchon[a], C. Hérisson[f]
[a] *Département de Neurologie, CMRR, Inserm U1061, CHRU de Montpellier, Montpellier, France*

[b] Faculté de Pharmacie de Poitiers, Poitiers, France
[c] Université Paris V, Département de Musicothérapie, Paris, France
[d] Service de Psychogériatrie, Fondation Hospitalière Sainte-Marie, Paris, France
[e] Service de Soins de Suite et de Réadaptation, Fondation Hospitalière Sainte-Marie, Paris, France
[f] Département de Médecine Physique et de Réadaptation, CHRU de Montpellier, Montpellier, France
*Corresponding author.

Keywords: Music; Musictherapy; Pain; Anxiety; Depression
Introduction.– Music therapy using the "U" sequence technique has demonstrated its usefulness in relieving acute and chronic pain, notably in the context of Alzheimer's disease. Use of the MUSIC CARE method enables the standardised application of music therapy [1].
Objective.– To evaluate the impact of music therapy on pain and anxiety among patients in convalescent and rehabilitation units.
Methods.– This was a prospective, open-label study performed in 50 hospitalised patients who were followed over a 2-week period: an initial visit followed by five sessions organised at minimum intervals of 2 days. The principal endpoint was pain evaluated before, at completion of and then 1 hour after each session, using a visual analogue scale (VAS).
Results.– The results showed a 47% short-term reduction in the pain score, and a 39% reduction in anxiety ($P < 0.001$). One hour after the session, the pain score was still 25% lower than baseline ($P < 0.01$).
Conclusion.– This preliminary study showed that the MUSIC CARE technique enabled a significant reduction in pain and anxiety among patients hospitalised in convalescent and rehabilitation units, even after the first session of therapy.
Reference
[1] www.music-care.com.

http://dx.doi.org/10.1016/j.rehab.2014.03.908

CO58-004-e

Rater reliability in the quantification of myofascial taut bands

J. Basford*, Q. Chen, J.J. Wang, R. Gay, J. Thompson, A. Manduca, K.N. An
Mayo Clinic, Rochester, USA
*Corresponding author.

Keywords: Myofascial pain syndrome; Taut bands; MRI
Introduction.– There is evidence that myofascial pain (MP) syndrome taut bands can be identified and quantitated with an MRI technique known as magnetic resonance elastographic (MRE) imaging. We sought to assess the reliability of this identification.
Materials and methods.– Seventy-one adults with MP had taut bands in their upper trapezii isolated by skilled musculoskeletal physicians. Following examination, they lay supine in a 1.5T MRI machine while shear waves were induced in their trapezii with an electromechanical transducer. Wave propagation was visualized with offset images across a vibration-cycle. Data was assessed independently by two skilled MRE interpreters to establish intra- as well as inter-rater reliability and taut band characteristics.
Results.– Intra- and inter-rater reliability of MRE interpretation was excellent (Kappas .8686 and .7982, respectively) while the concordance of physician and MRE findings was poor (Fisher's Exact Test, $P = .064$). Stiffness in MRE identified taut bands was elevated at 8.59 KPa (± 1.36 KPa) compared to 6.91 KPa (± 2.33 KPa) in surrounding muscle; tone in trapezii without taut bands was relatively uniform and lower at 5.02 KPa (± 0.79 KPa).
Conclusion.– Our findings suggest that, while physician accuracy is variable, taut bands exist, can be reliably assessed quantitatively, and represent localized areas of increased muscle stiffness.

http://dx.doi.org/10.1016/j.rehab.2014.03.909

CO65-002-e

Biopsychosocial complexity: A risk factor for complex regional pain syndrome (CRPS)?

M. Gartmann[a,*], O. Deriaz[b], M. Konzelmann[c], F. Luthi[c]
[a] UNIL, Lausanne, Switzerland
[b] Institut de Recherche en Réadaptation, Lausanne, Switzerland
[c] Clinique romande de réadaptation, Lausanne, Switzerland
*Corresponding author.

Keywords: CRPS; Pain; Function; Biopsychosocial complexity
Introduction.– CRPS prognosis is uncertain. However, the relationship between biopsychosocial (BPS) factors and CRPS has received little attention. The aim of this study was to compare the relationship between BPS complexity, pain and function in two groups of patients with/without CRPS after hand physical injuries.
Material and methods.– Double cohort study. CRPS with IASP criteria's. BPS complexity with INTERMED. Pain with VAS (Minimal Clinical Change [MCC]: ^{3} 30%), Function with DASH (MCC: ^{3} 12.75 pts.). Pain and function predictions with multiple linear regressions (standardised coefficient, ST). MCC (yes/no) with logistics regressions.
Results.– Three hundred and ninety-three patients were included (103 CRPS+/290 CRPS−). BPS complexity (INTERMED median score [p25; p75]: CRPS+ 23 pts [18; 27]/CRPS−: 23 pts [20; 27]), predicted Pain ST 0.22 (95%CI 0.11; 0.33), Function 0.20 (95%CI 0.09; 0.31) and functional MCC OR 0.44; (95%CI 0.24;0.81) in both groups. CRPS was only a predictor for function at entry 0.30 (95%CI 0.17; 0.42).
Discussion.– BPS complexity predicts pain, function and its improvement in both groups. Despite a worst function at entry, CRPS patients may improve with similar chance than patients without CRPS. As with any others pain syndromes, BPS complexity associated with poor outcomes, should be early evaluated in CRPS patients.

http://dx.doi.org/10.1016/j.rehab.2014.03.910

CO65-003-e

Fear-Avoidance Model (FAM) and return to work (RTW) after vocational rehabilitation for orthopaedic trauma

F. Luthi*, P. Vuistiner, B. Léger, C. Favre, O. Deriaz
Clinique, Sion, Switzerland
*Corresponding author.

Keywords: Pain; Catastrophizing; Kinesiophobia; Return to work
Introduction.– The FAM explains why some patients with musculoskeletal disorders may develop chronic pain and persistent disabilities. To our knowledge, this model was not used during vocational rehabilitation (VR) after orthopaedic trauma. The aim of this study was to assess if pain, catastrophizing, kinesiophobia, anxiety and depression were predictors of RTW after VR for orthopaedic trauma patients.
Material and methods.– Prospective cohort study. Potential predictors from the FAM were assessed by questionnaires at entry: pain (BPI), catastrophizing (PCS), kinesiophobia (TAMPA), anxiety and depression (HADs). Follow-up: 3 months after VR. The main outcome was RTW (fully or partially, same or accommodated job).
Results.– One hundred and sixty-three inpatients (35 women, 128 men). At 3 months, 56 (34.4%) were returned to work. Pain (OR = 0.97 [95%CI 0.95; 0.98], $P < 0.001$), catastrophizing (OR = 0.96 [0.94; 0.99], $P = 0.004$), kinesiophobia (OR = 0.94 [0.90; 0.98], $P = 0.004$), Anxiety (OR = 0.90 [0.83; 0.98], $P = 0.013$) and depression (OR = 0.87 [0.80; 0.95], $P = 0.002$) were all negatively associated with RTW at 3 months.
Discussion.– These results suggest that the FAM may be useful to screen orthopaedic trauma patients at risk of non-RTW 3 months after VR. However, confirmation with a longer follow-up is needed.

http://dx.doi.org/10.1016/j.rehab.2014.03.911